AMENDMENT

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A hit control system for a lithotripter, the hit-control system being configured to monitor effects of a shockwave treatment to a target area inside a body of a patient, the system comprising:

a shockwave generator that generates a shockwave for treatment of the target area;

an ultrasonic transmitting/receiving unit comprising an ultrasonic transducer configured to emit ultrasonic pulses and to receive ultrasonic waves reflected from ~~a~~ the target area ~~of the shockwave generator~~ during shockwave treatment of the target area; and

an evaluating unit, in communication with the ultrasonic transmitting/receiving unit, that determines a correlation coefficient $K_{1,2}$ of a time correlation between a first reflected ultrasonic wave ~~$e_i(t)$~~ and a second reflected ultrasonic wave ~~$e_{i+k}(t)$~~, the reflected ultrasonic waves corresponding to successively emitted ultrasonic pulses that are reflected in the target area in which ~~a~~ a target object is located, and the correlation being determined for a certain interval of time, ~~wherein the correlation coefficient $K_{1,2}$ is determined by $\int_{T_1}^{T_2} e_i(t) * e_{i+k}(t)dt$, wherein the interval of time is determined by the points in time T_1 and T_2, and~~ wherein the evaluating unit provides a signal related to the correlation coefficient $K_{,1,2.}$

wherein at least one of

a display device fed with the signal related to the correlation coefficient K,

an alarm device fed with and responsive to an error signal produced by the evaluating unit and related to the coefficient K, or

the shockwave generator, so as to stop or continue the generation of shockwaves dependent on an error signal produced by the evaluating unit and related to the coefficient K,

is connected to the evaluating unit.

2. (Currently Amended) The system of claim 1, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

3. (Original) The system of claim 1, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

4. (Original) The system of claim 1, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

5. (Original) The system of claim 1, wherein the ultrasonic transducer is a pin probe.

6. (Original) The system of claim 1, further comprising an X-ray locating device.

7. (Currently Amended) The system of claim 1, wherein the evaluating unit provides an error signal if, after emission of a shockwave, the minimum value of the correlation coefficient $K_{1,2}$ is not less than a predetermined first threshold value.

8. (Currently Amended) The system of claim 7, wherein the evaluating unit averages the minimum value of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

9. (Currently Amended) The system of claim 7, wherein the evaluating unit standardizes the minimum value of the correlation coefficient $K_{1,2}$ to a reference minimum value of a reference correlation coefficient curve.

10. (Currently Amended) The system of claim 7, further comprising means for the continuous representation of the minimum value of the correlation coefficient $K_{1,2}$ over a treatment duration.

11. (Original) The system of claim 7, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

12. (Previously Presented) The system of claim 11, wherein the alarm device outputs an optical alarm or acoustic alarm.

13. (Previously Presented) The system of claim 7, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

14. (Original) The system of claim 7, wherein the evaluating unit comprises adjusting means for adjusting the first threshold value.

15. (Currently Amended) The system of claim 7, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

16. (Original) The system of claim 7, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

17. (Original) The system of claim 7, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

18. (Original) The system of claim 7, wherein the ultrasonic transducer is a pin probe.

19. (Original) The system of claim 7, further comprising an X-ray locating device.

20. (Currently Amended) The system of claim 1, wherein the evaluating unit provides an error signal if, after emission of a shockwave, a relaxation time (T_R) of the correlation coefficient $K_{1,2}$ is not less than a predetermined second threshold value.

21. (Currently Amended) The system of claim 20, wherein the evaluating unit averages the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

22. (Currently Amended) The system of claim 20, wherein the evaluating unit standardizes the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ to a reference relaxation time of a reference correlation coefficient curve.

23. (Currently Amended) The system of claim 20, further comprising means for the continuous representation of the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a treatment duration.

24. (Original) The system of claim 20, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

25. (Previously Presented) The system of claim 24, wherein the alarm device outputs an optical alarm or acoustic alarm.

26. (Currently Amended) The system of claim 20, wherein the evaluating unit determines the relaxation time (T_R) by adapting a fit curve or a curve of the form $1 - A^{(-t/T_R)}$ to the variation of the correlation coefficient $K_{1,2}$ with time.

27. (Currently Amended) The system of claim 26, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

28. (Previously Presented) The system of claim 20, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

29. (Original) The system of claim 20, wherein the evaluating unit comprises adjusting means for adjusting the second threshold value.

30. (Currently Amended) The system of claim 20, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

31. (Original) The system of claim 20, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

32. (Original) The system of claim 20, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

33. (Original) The system of claim 20, wherein the ultrasonic transducer is a pin probe.

34. (Original) The system of claim 20, further comprising an X-ray locating device.

35. (Currently Amended) The system of claim 1, further comprising a display device in communication with the evaluating unit and that displays the variation of the correlation coefficient $K_{1,2}$ with time.

36. (Currently Amended) The system of claim 35, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

37. (Currently Amended) The system of claim 35, wherein the evaluating unit provides an error signal if, after emission of a shockwave, the minimum value of the correlation coefficient $K_{1,2}$ is not less than a predetermined first threshold value.

38. (Previously Presented) The system of claim 37, wherein the evaluating unit averages the minimum value over a plurality of shockwaves.

39. (Currently Amended) The system of claim 37, wherein the evaluating unit standardizes the minimum value of the correlation coefficient $K_{1,2}$ to a reference minimum value of a reference correlation coefficient curve.

40. (Currently Amended) The system of claim 37, further comprising means for the continuous representation of the minimum value of the correlation coefficient $K_{1,2}$ over a treatment duration.

41. (Original) The system of claim 37, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

42. (Previously Presented) The system of claim 41, wherein the alarm device outputs an optical alarm or acoustic alarm.

43. (Previously Presented) The system of claim 37, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

44. (Original) The system of claim 37, wherein the evaluating unit comprises adjusting means for adjusting the first threshold value.

45. (Currently Amended) The system of claim 37, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

46. (Original) The system of claim 37, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

47. (Original) The system of claim 37, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

48. (Original) The system of claim 37, wherein the ultrasonic transducer is a pin probe.

49. (Original) The system of claim 37, further comprising an X-ray locating device.

50. (Currently Amended) The system of claim 35, wherein the evaluating unit provides an error signal if, after emission of a shockwave, a relaxation time (T_R) of the correlation coefficient $K_{1,2}$ is not less than a predetermined second threshold value.

51. (Currently Amended) The system of claim 50, wherein the evaluating unit averages the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

52. (Currently Amended) The system of claim 50, wherein the evaluating unit standardizes the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ to a reference relaxation time of a reference correlation coefficient curve.

53. (Currently Amended) The system of claim 50, further comprising means for the continuous representation of the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a treatment duration.

54. (Original) The system of claim 50, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

55. (Previously Presented) The system of claim 54, wherein the alarm device outputs an optical alarm or acoustic alarm.

56. (Currently Amended) The system of claim 50, wherein the evaluating unit determines the relaxation time (T_R) by adapting a fit curve or a curve of the form $1 - A^{(-t/T_R)}$ to the variation of the correlation coefficient $K_{1,2}$ with time.

57. (Currently Amended) The system of claim 56, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

58. (Previously Presented) The system of claim 50, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

59. (Original) The system of claim 50, wherein the evaluating unit comprises adjusting means for adjusting the second threshold value.

60. (Currently Amended) The system of claim 50, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

61. (Original) The system of claim 50, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

62. (Original) The system of claim 50, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

63. (Original) The system of claim 50, wherein the ultrasonic transducer is a pin probe.

64. (Original) The system of claim 50, further comprising an X-ray locating device.

65. (Currently Amended) The system of claim 1, wherein the evaluating unit determines the correlation coefficient $K_{1,2}$ based on the ultrasonic waves assigned to the ultrasonic pulses directly succeeding one another.

66. (Currently Amended) The system of claim 65, wherein the evaluating unit provides an error signal if, after emission of a shockwave, the minimum value of the correlation coefficient $K_{1,2}$ is not less than a predetermined first threshold value.

67. (Currently Amended) The system of claim 66, wherein the evaluating unit averages the minimum value of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

68. (Currently Amended) The system of claim 66, wherein the evaluating unit standardizes the minimum value of the correlation coefficient $K_{1,2}$ to a reference minimum value of a reference correlation coefficient curve.

69. (Currently Amended) The system of claim 66, further comprising means for the continuous representation of the minimum value of the correlation coefficient $K_{1,2}$ over a treatment duration.

70. (Original) The system of claim 66, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

71. (Previously Presented) The system of claim 70, wherein the alarm device outputs an optical alarm or acoustic alarm.

72. (Previously Presented) The system of claim 66, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

73. (Original) The system of claim 66, wherein the evaluating unit comprises adjusting means for adjusting the first threshold value.

74. (Currently Amended) The system of claim 66, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

75. (Original) The system of claim 66, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

76. (Original) The system of claim 66, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

77. (Original) The system of claim 66, wherein the ultrasonic transducer is a pin probe.

78. (Original) The system of claim 66, further comprising an X-ray locating device.

79. (Currently Amended) The system of claim 65, wherein the evaluating unit provides an error signal if, after emission of a shockwave, a relaxation time (T_R) of the correlation coefficient $K_{1,2}$ is not less than a predetermined second threshold value.

80. (Currently Amended) The system of claim 79, wherein the evaluating unit averages the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

81. (Currently Amended) The system of claim 79, wherein the evaluating unit standardizes the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ to a reference relaxation time of a reference correlation coefficient curve.

82. (Currently Amended) The system of claim 79, further comprising means for the continuous representation of the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a treatment duration.

83. (Original) The system of claim 79, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

84. (Previously Presented) The system of claim 83, wherein the alarm device outputs an optical alarm or acoustic alarm.

85. (Currently Amended) The system of claim 79, wherein the evaluating unit determines the relaxation time (T_R) by adapting a fit curve or a curve of the form $1 - A^{(-t/T_R)}$ to the variation of the correlation coefficient $K_{1,2}$ with time.

86. (Currently Amended) The system of claim 85, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

87. (Previously Presented) The system of claim 79, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

88. (Original) The system of claim 79, wherein the evaluating unit comprises adjusting means for adjusting the second threshold value.

89. (Currently Amended) The system of claim 79, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

90. (Original) The system of claim 79, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

91. (Original) The system of claim 79, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

92. (Original) The system of claim 79, wherein the ultrasonic transducer is a pin probe.

93. (Original) The system of claim 79, further comprising an X-ray locating device.

94. (Currently Amended) The system of claim 75, further comprising a display device in communication with the evaluating unit and that displays the variation of the correlation coefficient $K_{1,2}$ with time.

95. (Currently Amended) The system of claim 94, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

96. (Currently Amended) The system of claim 94, wherein the evaluating unit provides an error signal if, after emission of a shockwave, the minimum value of the correlation coefficient $K_{1,2}$ is not less than a predetermined first threshold value.

97. (Currently Amended) The system of claim 96, wherein the evaluating unit averages the minimum value of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

98. (Currently Amended) The system of claim 96, wherein the evaluating unit standardizes the minimum value of the correlation coefficient $K_{1,2}$ to a reference minimum value of a reference correlation coefficient curve.

99. (Currently Amended) The system of claim 96, further comprising means for the continuous representation of the minimum value of the correlation coefficient $K_{1,2}$ over a treatment duration.

100. (Original) The system of claim 96, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

101. (Previously Presented) The system of claim 100, wherein the alarm device outputs an optical alarm or acoustic alarm.

102. (Previously Presented) The system of claim 96, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

103. (Original) The system of claim 96, wherein the evaluating unit comprises adjusting means for adjusting the first threshold value.

104. (Currently Amended) The system of claim 96, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

105. (Original) The system of claim 96, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

106. (Original) The system of claim 96, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

107. (Original) The system of claim 96, wherein the ultrasonic transducer is a pin probe.

108. (Original) The system of claim 96, further comprising an X-ray locating device.

109. (Currently Amended) The system of claim 94, wherein the evaluating unit provides an error signal if, after emission of a shockwave, a relaxation time (T_R) of the correlation coefficient $K_{1,2}$ is not less than a predetermined second threshold value.

110. (Currently Amended) The system of claim 109, wherein the evaluating unit averages the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

111. (Currently Amended) The system of claim 109, wherein the evaluating unit standardizes the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ to a reference relaxation time of a reference correlation coefficient curve.

112. (Currently Amended) The system of claim 109, further comprising means for the continuous representation of the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a treatment duration.

113. (Original) The system of claim 109, further comprising an alarm device in communication with the evaluating unit and supplied with the error signal.

114. (Previously Presented) The system of claim 113, wherein the alarm device outputs an optical alarm or acoustic alarm.

115. (Currently Amended) The system of claim 109, wherein the evaluating unit determines the relaxation time (T_R) by adapting a fit curve or a curve of the form $1 - A^{(-t/T_R)}$ to the variation of the correlation coefficient $K_{1,2}$ with time.

116. (Currently Amended) The system of claim 109, wherein the evaluating unit smoothes the variation of the correlation coefficient $K_{1,2}$.

117. (Previously Presented) The system of claim 109, wherein the shockwave generator is in communication with the evaluating unit and stops or continues the generation of shockwaves dependent on the error signal.

118. (Original) The system of claim 109, wherein the evaluating unit comprises adjusting means for adjusting the second threshold value.

119. (Currently Amended) The system of claim 109, wherein the evaluating unit determines a temporal cross correlation function between the ultrasonic waves and to define the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

120. (Original) The system of claim 109, wherein the ultrasonic transducer of the ultrasonic transmitting/receiving unit is mounted on an adjustable holder.

121. (Original) The system of claim 109, wherein the ultrasonic transmitting/receiving unit is a part of an imaging ultrasonic scanner.

122. (Original) The system of claim 109, wherein the ultrasonic transducer is a pin probe.

123. (Original) The system of claim 109, further comprising an X-ray locating device.

124. (Currently Amended) A hit control method for a lithotripter, the hit-control method monitoring effects of a shockwave treatment to a target area inside a body of a patient, comprising:

providing a shockwave generator that generates a shockwave for treatment of the target area;

providing an ultrasonic transmitting/receiving unit comprising an ultrasonic transducer;

providing an evaluating unit, in communication with the ultrasonic transmitting/receiving unit and the shockwave generator;

emitting ultrasonic pulses from the ultrasonic transducer into a body during shockwave treatment of the target area;

receiving ultrasonic waves reflected from a target area in the body in which a target object is located via the transducer;

evaluating the received ultrasonic waves via the evaluating unit to determine a correlation coefficient $K_{1,2}$ of a time correlation between a first reflected ultrasonic wave ~~$e_i(t)$~~ and a second reflected ultrasonic wave ~~$e_{i+k}(t)$~~, the reflected ultrasonic waves corresponding to successively emitted ultrasonic pulses that are reflected in the target area in which ~~a~~ a target object is located, and the correlation being determined for a certain interval of time, ~~wherein the correlation coefficient $K_{1,2}$ is determined by $\int_{T_1}^{T_2} e_1(t) * e_2(t)dt$, and wherein the interval of time is determined by the points in time T_1 and T_2~~; and

providing a signal related to the correlation coefficient $K_{1,2}$ from the evaluating unit,

providing at least one of

a display device in connection with the evaluating unit and fed with the signal related to the correlation coefficient K,

an alarm device in connection with the evaluating unit, feeding it with and responsive to an error signal produced by the evaluating unit and related to the correlation coefficient K, or

the shockwave generator in communication with the evaluating unit and stopping or continuing the generation of shockwaves dependent on an error signal produced by the evaluating unit and related to the correlation coefficient K.~~.~~

125. (Currently Amended) The method of claim 124, wherein evaluating the received ultrasonic waves comprises determining the correlation coefficient $K_{1,2}$ based on the ultrasonic waves assigned to the ultrasonic pulses directly succeeding one another.

126. (Currently Amended) The method of claim 124, wherein evaluating the received ultrasonic waves comprises determining a temporal cross correlation function between the ultrasonic waves and defining the maximum value of the temporal cross correlation function as the correlation coefficient $K_{1,2}$.

127. (Currently Amended) The method of claim 124, further comprising continuously representing the minimum value of the correlation coefficient $K_{1,2}$ during a shockwave treatment of the body.

128. (Currently Amended) The method of claim 124, further comprising continuously representing the relaxation time(T_R) of the correlation coefficient $K_{1,2}$ during a shockwave treatment of the body.

129. (Currently Amended) The method of claim 124, further comprising:

providing a display device in communication with the evaluating unit;

positioning the body within a focus of the shockwave generator;

displaying the target object and the focus on the display device;

adjusting the position of the body to place the target object within the focus of the shockwave generator;

determining the minimum value of the correlation coefficient $K_{1,2}$ after the emission of a shockwave from the shockwave generator; and

storing the minimum value as a reference minimum value.

130. (Original) The method of claim 129, further comprising standardizing the minimum value of a second correlation coefficient (K'), measured at a later time, to the reference minimum value.

131. (Currently Amended) The method of claim 129, further comprising continuously representing the minimum value of the correlation coefficient $K_{1,2}$ during a shockwave treatment of the body.

132. (Currently Amended) The method of claim 124, further comprising:

providing a display device in communication with the evaluating unit;

positioning the body within a focus of the shockwave generator;

displaying the target object and the focus on the display device;

adjusting the position of the body to place the target object within the focus of the shockwave generator;

determining the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ after the emission of a shockwave from the shockwave generator; and

storing the relaxation time (T_R) as reference relaxation time.

133. (Original) The method of claim 132, further comprising standardizing the relaxation time (T_R) of a second correlation coefficient (K'), measured at a later time, to the reference relaxation time.

134. (Currently Amended) The method of claim 132, further comprising continuously representing the relaxation time(T_R) of the correlation coefficient $K_{1,2}$ during a shockwave treatment of the body.

135. (Currently Amended) The method of claim 124, further comprising providing an error signal from the evaluating unit to the shockwave generator if, after emission of a shockwave, the minimum value of the correlation coefficient $K_{1,2}$ is not less than a predetermined first threshold value.

136. (Currently Amended) The method of claim 135, further comprising averaging the minimum value of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

137. (Currently Amended) The method of claim 135, further comprising standardizing the minimum value of the correlation coefficient $K_{1,2}$ to a reference minimum value of a reference correlation coefficient curve.

138. (Currently Amended) The method of claim 124, further comprising providing an error signal from the evaluating unit to the shockwave generator if, after emission of a shockwave, the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ is not less than a predetermined second threshold value.

139. (Currently Amended) The method of claim 138, further comprising averaging the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ over a plurality of shockwaves.

140. (Currently Amended) The method of claim 138, further comprising standardizing the relaxation time (T_R) of the correlation coefficient $K_{1,2}$ to a reference relaxation time of a reference correlation coefficient curve.

141. (Canceled)

142. (New) The method of claim 124, wherein the treatment is a lithotripsy treatment.

143. (New) The method of claim 142, wherein the treatment is the fragmentation of a target object in said target area.

144. (New) The method of claim 124, wherein the correlation coefficient $K_{i,\,k}$ of a time correlation between the first reflected ultrasonic wave $e_i(t)$ and the second reflected ultrasonic wave $e_{i+k}(t)$ is determined by $\int_{T_1}^{T_2} e_i(t) * e_{i+k}(t)dt$, wherein the interval of time is determined by the points in time T_1 and T_2.

145. (New) The method of claim 144, wherein the correlation coefficient $K_{i,\,k}$ is standardized by means of the factor $\left(\int_{T_1}^{T_2} e_i^2(t)dt\right)^{\frac{1}{2}}\left(\int_{T_1}^{T_2} e_{i+k}^2(t)dt\right)^{\frac{1}{2}}$.

146. (New) The system of claim 1, wherein the correlation coefficient $K_{i,\,k}$ of a time correlation between the first reflected ultrasonic wave $e_i(t)$ and the second reflected ultrasonic wave $e_{i+k}(t)$ is determined by $\int_{T_1}^{T_2} e_i(t) * e_{i+k}(t)dt$, wherein the interval of time is determined by the points in time T_1 and T_2.

147. (New) (Previously Presented) The system of claim 146, wherein the correlation coefficient $K_{i,\,k}$ is standardized by means of the factor $\left(\int_{T_1}^{T_2} e_i^2(t)dt\right)^{\frac{1}{2}}\left(\int_{T_1}^{T_2} e_{i+k}^2(t)dt\right)^{\frac{1}{2}}$.

148. (New) The system of claim 1, wherein the treatment is a lithotripsy treatment.

149. (New) The system of claim 148, wherein the treatment is the fragmentation of a target object in said target area.